

Cap-and-Trade: Lessons from Other Programs

Helping States and the Nation Tackle Climate Change



WA Webinar Series

- Webinar #1: Introduction to Market Mechanisms
- Webinar #2: Key Lessons from Other Programs
(US Acid Rain Program; European Union Emissions Trading Scheme, Northeast Regional Greenhouse Gas Initiative, Cal Market Advisory Committee, & Oregon Load-based electricity cap)
- Webinar #3: What Issues Arise for Washington and for the Western Region in Designing a Program?
- Webinar #4: A Chance to Hear from Washington Groups?



Agenda

- U.S. Acid Rain SO₂ & NOx Budget Programs
Brian McLean, Director, EPA Office of Atmospheric Programs
- European Union Emissions Trading Scheme (ETS)
Jill Duggan, Head of International Emissions Trading,
U.K. Dept. for Environment, Food & Rural Affairs (DEFRA)
- Northeast Regional Greenhouse Gas Initiative (RGGI)
Franz Litz, former Chair of RGGI States' Working Group
- Oregon Load-based Design
Phil Carver, Oregon Department of Energy
- CA Market Advisory Committee (MAC) Design
Franz Litz, Cal MAC Committee Member
- Sneak Peak at Next Webinar

Experience with Acid Rain and NOx Cap-and-Trade Programs

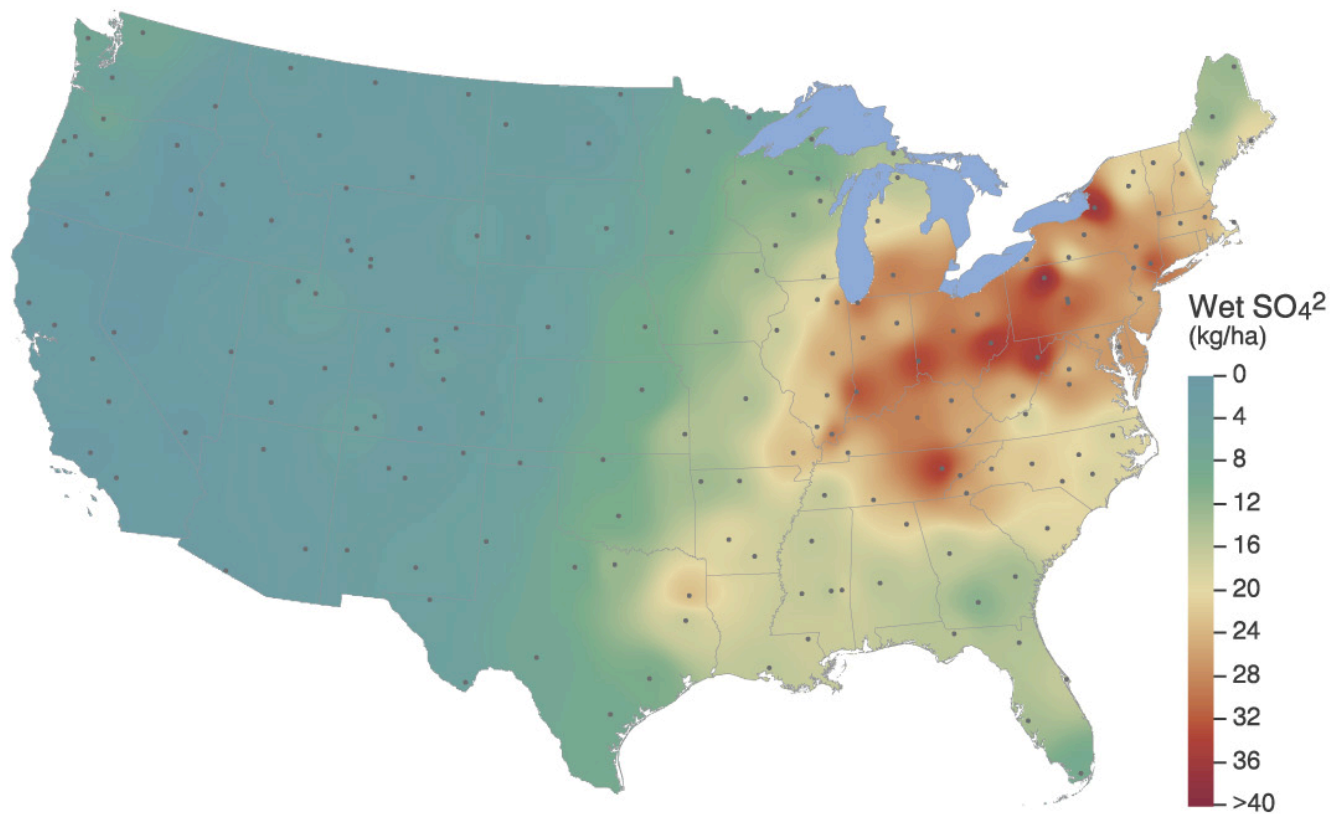
Brian McLean, Director
Office of Atmospheric Programs,
U.S. Environmental Protection Agency
July 23, 2007

Overview

- Cap and trade is one of several regulatory approaches
- If properly designed and applied, it can be
 - Environmentally effective and administratively efficient
 - Reduce emissions quickly and cost-effectively
 - Promote innovation
- Works best in situations where
 - Aggregate impact is principal concern
 - Costs differ across a range of options
 - Strong regulatory institutions and financial markets exist
- Can work in concert with other regulatory approaches

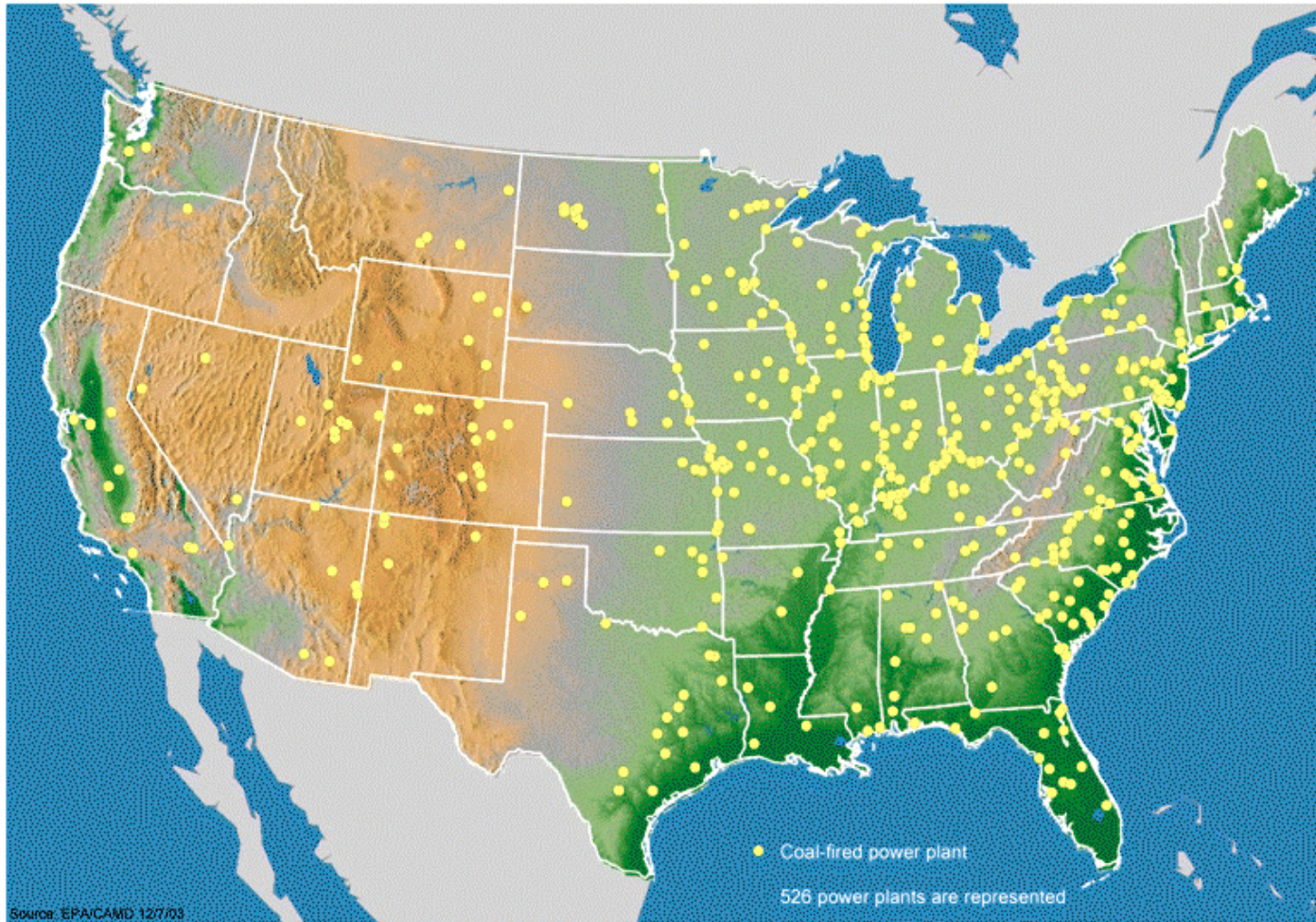
Addressing Acid Rain

Annual Mean Wet Sulfate Deposition,
1989–1991



Source: National Atmospheric Deposition Program

Coal-Fired Power Plants Are the Dominant Source of Air Emissions



U.S. Coal-Fired Power Plants

- There are about 530 power plants with 305 GW of capacity that consists of about 1,300 units.
- Coal plants generate the vast majority of power sector emissions:
 - 95% SO_2
 - 90% of NO_x
 - 83% of CO_2

Setting the Cap and Allocating Allowances: Acid Rain Program

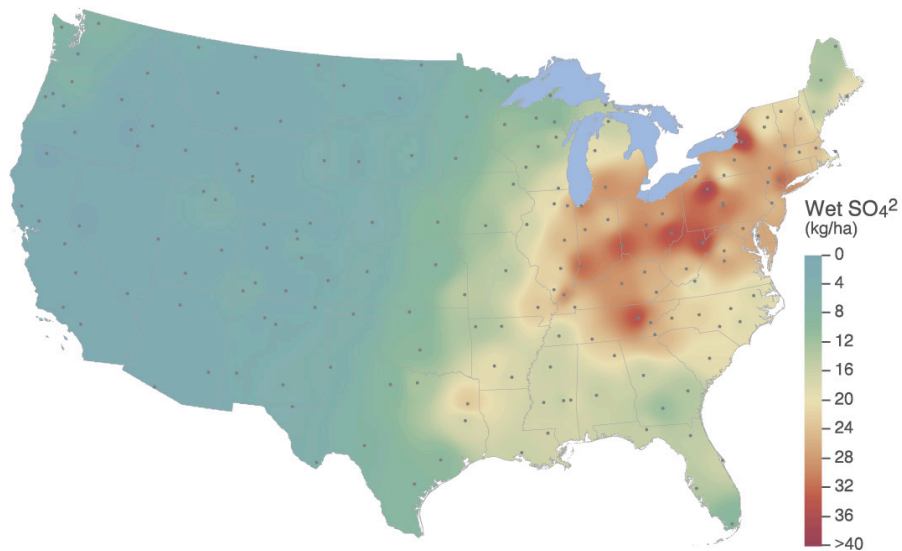
- Legislation established
 - cap level
 - timing of reductions
 - allocations
- Allocation was not addressed until the cap was agreed upon
- Requests for additional allowances had to be balanced against losses of allowances

Distributing Allowances

- Considerations: Equity, environmental incentives, efficiency
- Recognition that vast majority of allocation approaches that EPA has considered all lead to the same level and distribution of emission reductions: the emission caps and banking drive reductions.
- Many ways, none are perfect:
 - Auction
 - Direct allocation to sources based on historical and/or current emissions, energy use (input), or production (output, e.g. MWH)
 - Set asides (new sources, renewables, demand side efficiency)
 - Hybrid
- Allowance allocation should balance need for certainty and allow for changing circumstances
 - EPA programs have allocations for several years into the future

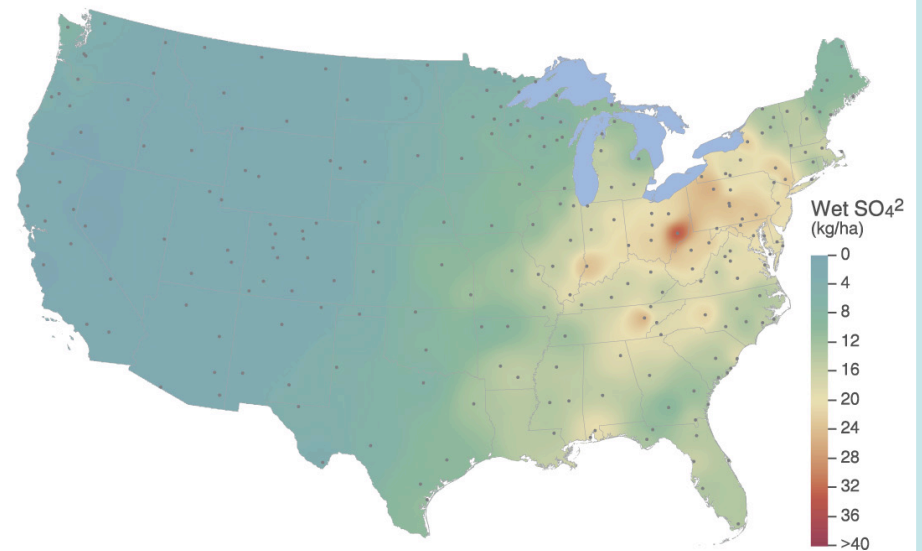
Acid Rain Program Progress

Annual Mean Wet Sulfate Deposition,
1989–1991



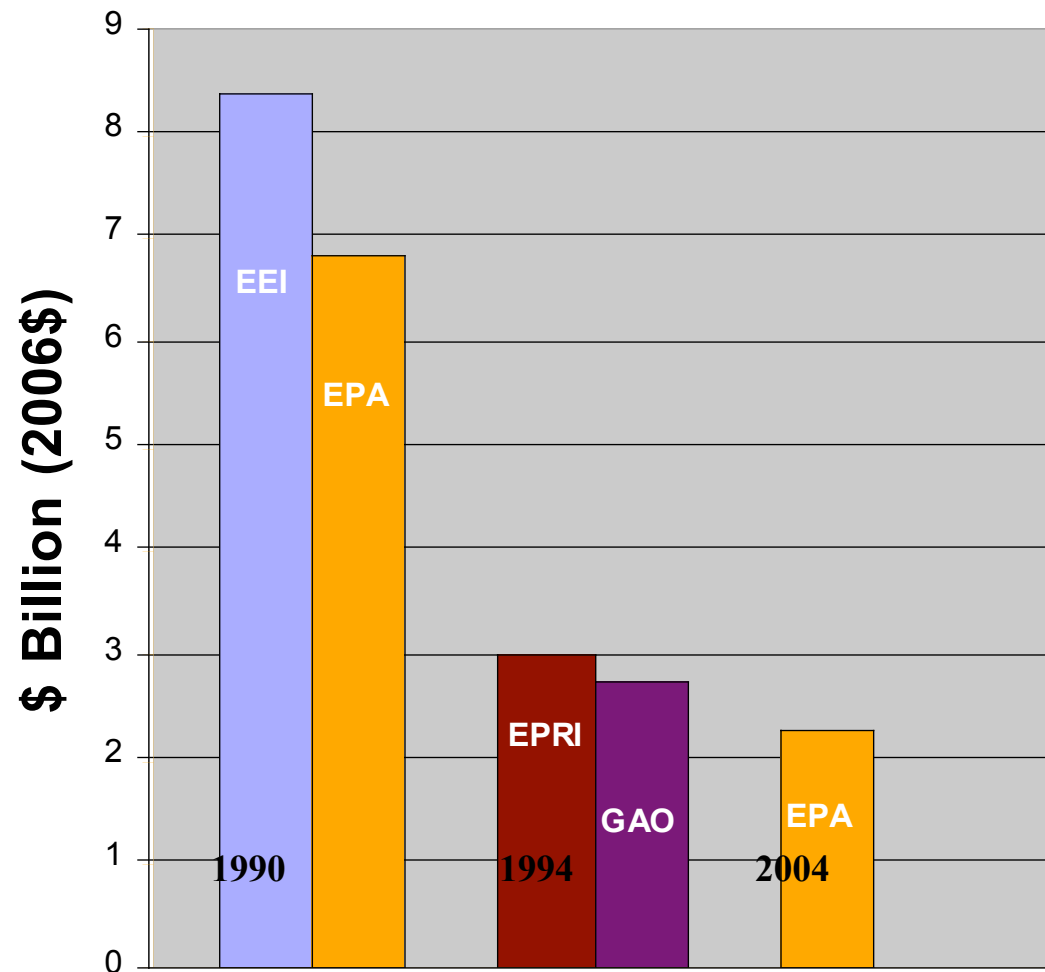
Source: National Atmospheric Deposition Program

Annual Mean Wet Sulfate Deposition,
2003–2005



Source: National Atmospheric Deposition Program

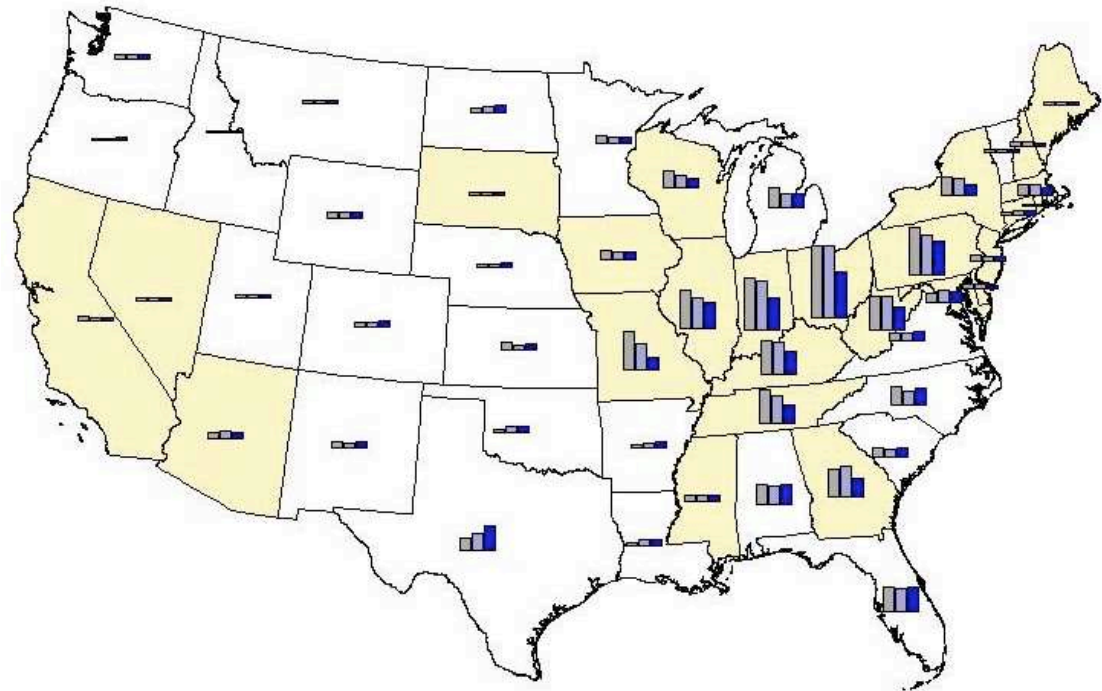
Acid Rain SO₂ Program Costs: Much Lower than Originally Predicted



Source: EPA, 2006

Spatial Issues (hotspots)

- Greatest reductions in States with highest emissions
- Independent analyses (i.e., ELI, RFF, and EDF) have found that trading under the Acid Rain Program has not created hot spots
- States and localities have authority to address local air quality problems (including setting facility permit levels that would preclude use of allowances)



State Level SO2

1980

1990

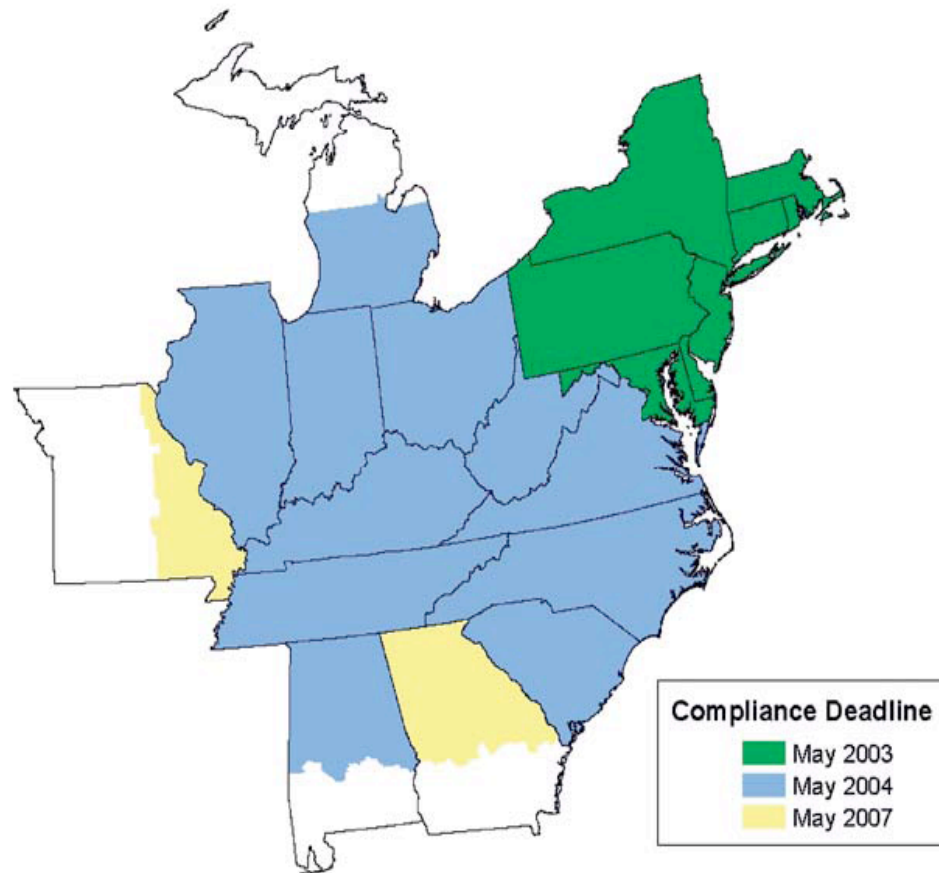
1995-1999 Average

All SO2 Reducing States since 1990
(1995-1999 Average vs. 1990)

NOx Trading Budget Trading Program: Addressing Ozone Transport

- Caused by local + transported emissions of NOx and VOC
- More diverse set of sources than acid rain
 - Power generation about 25% of NOx
- Seasonal problem with short term peak concentrations rather than total loadings

NOx Budget Trading Program (NBP)



- Problem: Reduce summer ozone/smog levels
- Scope: Eastern U.S.
- Target: Reduce NOx emissions from electric generators and industrial boilers by 1 million tons (70% below 1990 levels)
- Coverage: 2,570 units

NOx Budget Program Design Elements

- Timing:
 - Five-month compliance period: May 1 –September 30 ozone season
 - Finalized in 1998, monitoring required in 2002 and reductions in 2003
 - Court order moved compliance date for all states back to 2004
- Applicability
 - Fossil fuel fired electric generators > 25 MW
 - Industrial boilers and turbines >250 mmBtu/hr
- Allowance Distribution
 - Allocations from state, who have discretion
 - Allocations must be within state trading budget
 - States may also set aside a portion of the budget (Renewables, new sources)
- Allowance Use
 - Allowance is defined as authorization to emit one ton of NOx during ozone season
 - Unrestricted trading can occur between sources
 - Progressive Flow Control if necessary
 - Requires portion of banked allowances to be surrendered 2:1 if needed to cover emissions

NOx Budget Program Design Elements

- Monitoring and Reporting Emissions
 - Sources required to continuously monitor emissions in accordance with Part 75–Updated Acid Rain Program monitoringregs
 - Additional guidelines:–Monitoring certification process–Data review–Quality assurance tests–Quarterly reporting
- Compliance and Enforcement
 - All sources must hold allowances sufficient to cover emissions
 - Compliance and overdraft accounts
 - Automatic excess emissions offset
 - 3 allowances for each ton of excess emissions
 - Other enforcement action possible

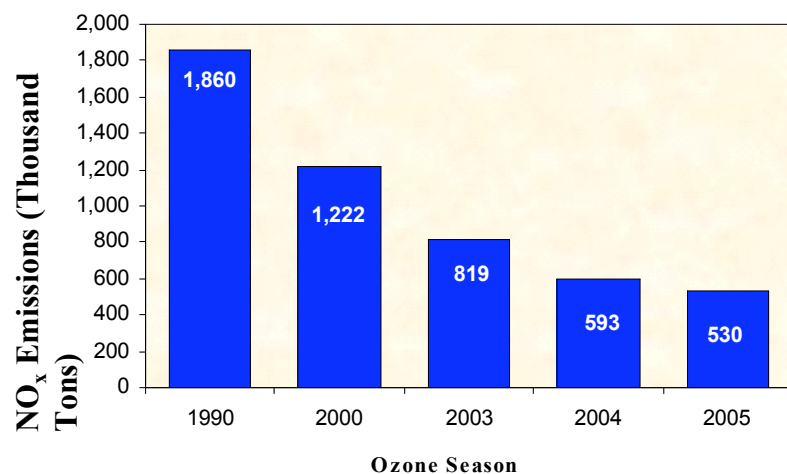
Summertime NO_x Emission Reductions

2005 NBP states' ozone season reductions (May 1 – September 30)

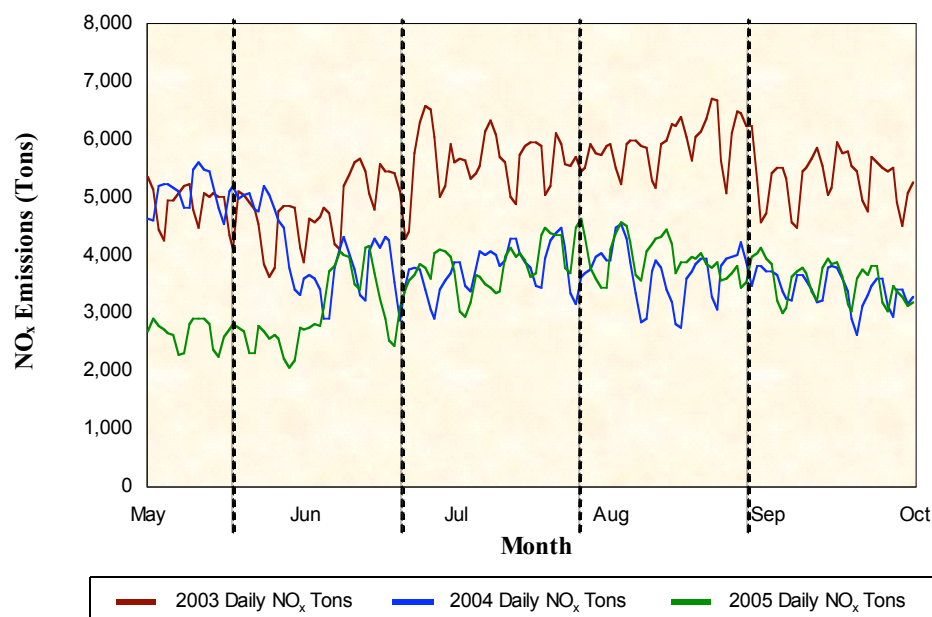
> 72% from 1990 baseline

> 57% from 2000 baseline

> 11% from 2004



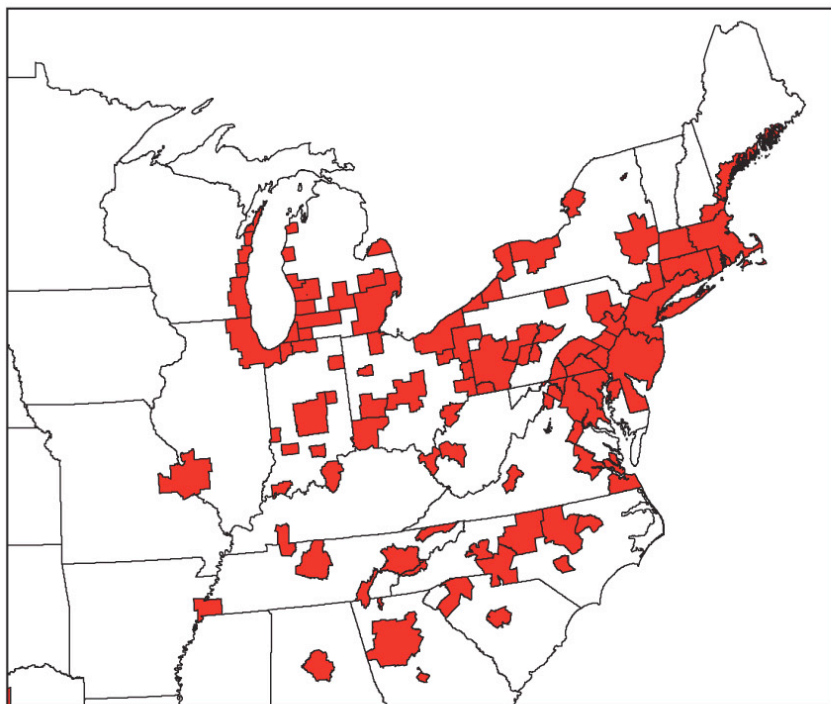
Daily Emission Trends for NO_x Budget Trading Program
Units in 2003, 2004 and 2005



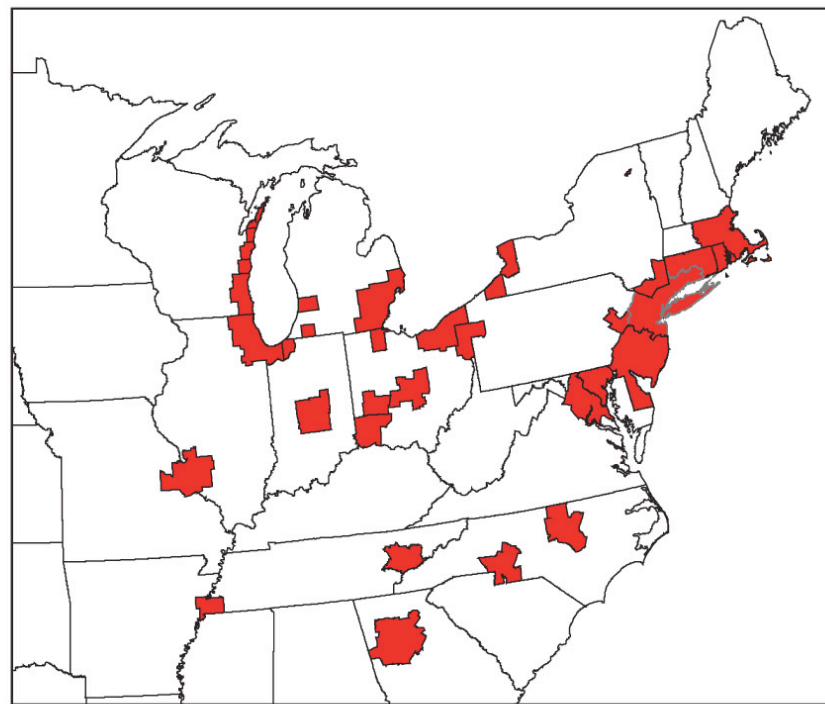
Source: EPA, 2006

70 % of Areas in the Eastern US that Didn't Meet the Ozone Std in 2004 Now Have Better Air than the Std Requires

8-Hour Ozone Nonattainment Areas,
April 2004 (2001–2003 Air Quality Data)

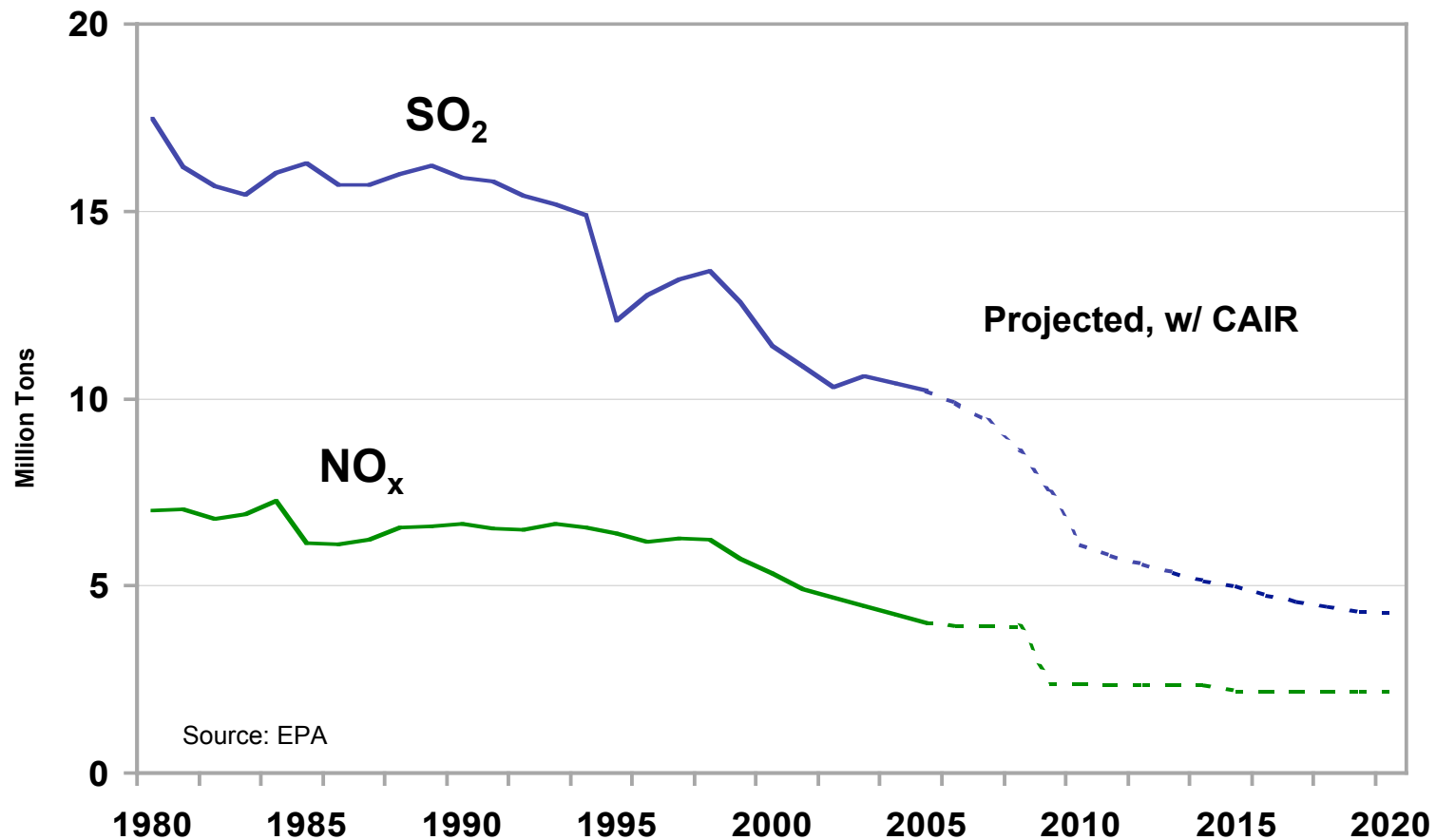


Areas Remaining Above Standard
(2003–2005 Air Quality Data)



Note: Included on the maps, but excluded from the analysis, are four areas with incomplete data for 2003 to 2005 (Cass Co, MI; Dayton-Springfield, OH; Essex Co (Whiteface Mtn), NY; La Porte, IN).

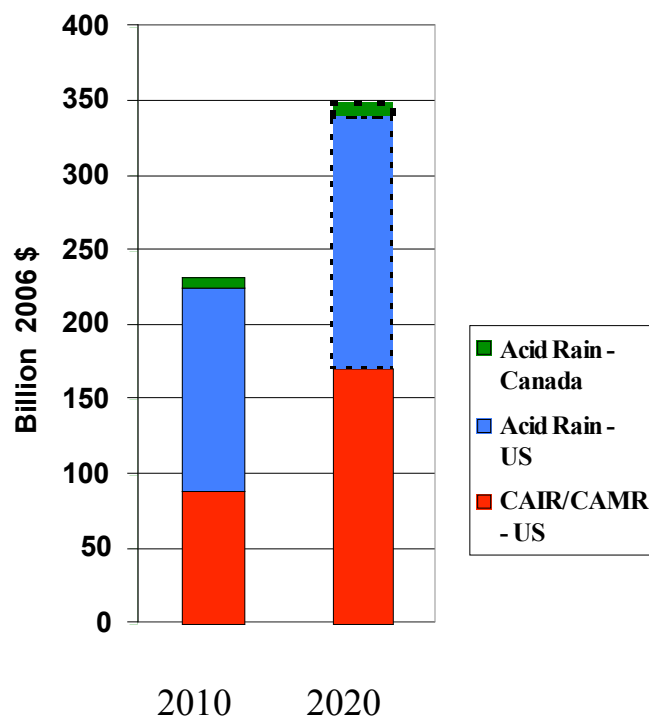
National SO₂ and NO_x Power Plant Emissions



Benefits of Acid Rain and CAIR Program

Annual Benefits

-Qualified Assessment-



Note: All estimates used a 3% discount rate. Use of 7% discount rate would lower estimates about 15 percent. CPI-U used to convert 1999\$ and 2000\$ to 2006\$. Sources: Used Chestnut & Mills Analysis, "A fresh look at the benefits and costs of the US acid rain program" (Oct. 1, 2004) for 2010 Acid Rain Benefits and EPA's Multi-pollutant Regulatory Analysis: CAIR, CAVR, CAMR (Oct. 2005) for 2010 and 2020 estimates for these programs. Acid Rain 2020 benefits extrapolated from 2010 estimates.

- Benefits driven by:
 - Reduced premature deaths
 - Lowering aggravation and incidence of heart and lung ailments
- Other benefits:
 - increased worker productivity
 - reduced absences from school and work
 - visibility improvement in some parks
- Benefits not included:
 - CAIR's Canadian Health Benefits
 - Acid rain environmental benefits
 - Mercury benefits
 - Remaining visibility benefits from parks and urban areas
 - Others

Basic Elements of Cap and Trade

- **Full sector coverage** – All sources (existing and new) included
 - Minimizes shifting of production and emissions (“leakage”)
 - Assures achievement of emission reduction goal without case-by-case review
 - Reduces administrative costs to government and industry
- **Cap on emissions** – Government issuance of a fixed quantity of allowances
 - Limits emissions to achieve and maintain environmental goal
 - Limits creation of “paper credits” and “anyway tons”
 - Provides certainty to allowance market
- **Monitoring** – Accurate measurement and reporting of all emissions
 - Assures accountability and results
 - Establishes integrity of allowances and confidence in the market
- **Trading** – Unrestricted trading and banking (with source-specific limits allowed to protect local air quality)
 - Allows companies to choose (and change) compliance options
 - Minimizes compliance cost
 - Ensures that trading will not cause “hotspots”

Emissions Measurement Goals

- Complete accounting with no underestimation
- Simplicity, consistency and transparency
- Incentives for accuracy and improvement
- Cost effectiveness
- Flexibility for small sources
 - 36% of units must use Continuous Emissions Monitors (CEMS)
 - Accounts for 96% of total SO₂ emissions
- Electronic reporting, feedback, and auditing
- Public access to data

Public Access to Hourly Emissions Data

Clean Air Markets - Data and Maps - Microsoft Internet Explorer

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U.S. Environmental Protection Agency

Clean Air Markets - Data and Maps

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Create Queries

Time Frame: Unit Emissions Hourly Data
Start Date: 02/3/2002
End Date: 02/3/2002
Facilities: Coronado Generating Station

[New Query](#) [Print Report](#) [Download Data](#) [Report Definitions](#)

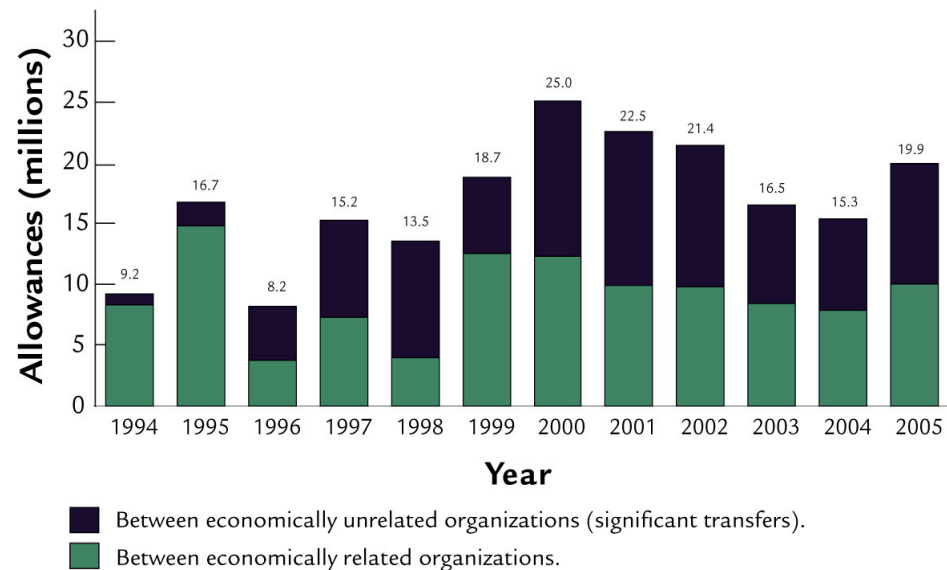
State	Facility Name	Facility ID (ORISPL)	Unit ID	Date (mm/dd/yyyy)	OP Hour	SO ₂ Tons	CO ₂ Tons	NO _x Tons	Avg. NO _x Rate (lb/mmBtu)	Heat Input (mmBtu)	OP Time (hrs)
AZ	Coronado Generating Station	6177	U1B	02/03/2002	00	62.1	58.9	184.2	0.32	574	1.00
AZ	Coronado Generating Station	6177	U1B	02/03/2002	01	42.3	59.0	184.5	0.32	575	1.00
AZ	Coronado Generating Station	6177	U1B	02/03/2002	02	33.4	59.7	186.8	0.32	582	1.00
AZ	Coronado Generating Station	6177	U1B	02/03/2002	03	18.4	59.7	186.6	0.32	581	1.00
AZ	Coronado Generating Station	6177	U1B	02/03/2002	04	30.0	59.8	187.2	0.32	583	1.00
AZ	Coronado Generating Station	6177	U1B	02/03/2002	05	34.8	59.5	186.3	0.32	588	1.00

Internet

Active Allowance Market

- Over 222 million allowances transferred and over 43 thousand transactions since 1994
- Approximately 45% of transfers are arms length trades
- Over 98% of transfers are handled online
- Low transaction costs

SO₂ Allowances Transferred under the Acid Rain Program



Source: EPA, 2006

Public Access to Allowance Data

Internet query capability

ATS - Transaction Report

Event Num	Transaction Description	Transferee ID	Transferee Name	State	Transferee Rep	Transferor ID
2134	Purchase at EPA Auction	999900000048	Cantor Fitzgerald Brokerage		Bartels Carlton	000000000000
2168	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002835000000
2169	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002835000000
2170	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002835000001
2171	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002835000001
2172	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002836000001
2173	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002837000000
2174	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002838000001
2175	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	002049000000
2176	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	000026000000
2177	Private Transfer	999900000044	Cantor Fitzgerald Brokerage		Bartels Carlton	000703001BL
2178	Private Transfer	002836000011	Avon Lake	OH	Couch, Jr. Howard	999900000004

Type of transfer
(auction, private)

Buyer name and
account info

Transferor Name	State	Transferor Rep	Trans Total	Confirm Date	Allowance Year	Start Number	End Number	Amount
Auction Reserve		EPA Representative Authorized	2572	19930401	1995	10188	12759	2572
abula	OH	Couch, Jr. Howard	2317	19940330	2000	6022520	6024836	2317
abula	OH	Couch, Jr. Howard	1974	19940330	2000	6024837	6026810	1974
abula	OH	Couch, Jr. Howard	1779	19940330	2000	6026811	6028589	1779
abula	OH	Couch, Jr. Howard	1873	19940330	2000	6028590	6030462	1873
h Lake	OH	Couch, Jr. Howard	4984	19940330	2000	6035242	6040225	4984
ake	OH	Couch, Jr. Howard	6083	19940330	2000	6180865	6186947	6083
e Shore	OH	Couch, Jr. Howard	5990	19940330	2000	6413079	6419068	5990
Watson	MS	Guthrie Bill	5000	19940330	1995	2662137	2667136	5000
Gaston	AL	Guthrie Bill	5000	19940330	1995	369865	374864	5000
en	GA	Guthrie Bill	10000	19940330	1995	549329	559328	10000
or Fitzgerald Brokerage		Bartels Carlton	20000	19940330	1995	369865	374864	5000

Seller name and
account info

Confirmation date,
serial numbers and
total allowances
transferred

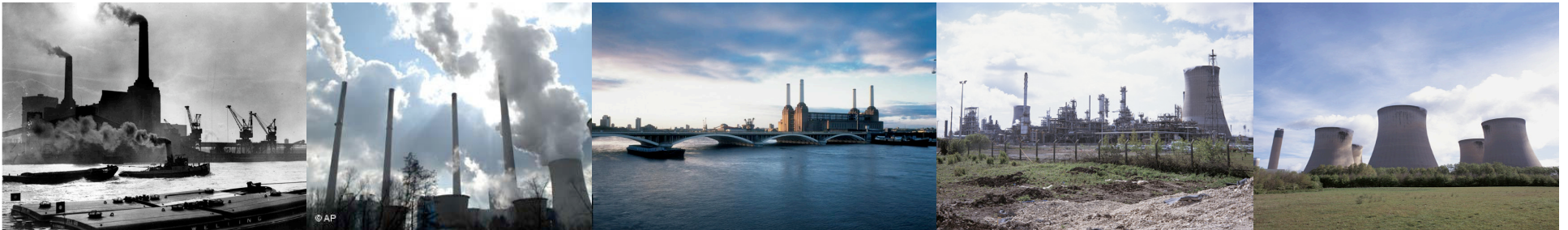
Lesson: Government Focus

- Achieving the environmental goal
 - Reducing and capping emissions
 - Greater than 99% compliance
- Supporting the allowance market by
 - Ensuring the integrity of the allowance, i.e., the authorization to emit
 - Minimizing administrative costs

For more information about OAP

- Office of Atmospheric Programs:
<http://epa.gov/air/oap.html>
- Clean Air Markets Division:
<http://epa.gov/airmarkets/>
- Climate Change Division:
<http://www.epa.gov/air/ccd.html>
- Climate Protection Partnership Division:
<http://epa.gov/cppd/>
- Stratospheric Protection Division:
<http://www.epa.gov/ozone/>

EU Emissions Trading: The UK's experience



Jill Duggan

Head of International Emissions Trading

Climate and Energy; Business and Transport

UK Department of Environment, Food & Rural Affairs (DEFRA)

European Union Emissions Trading Scheme

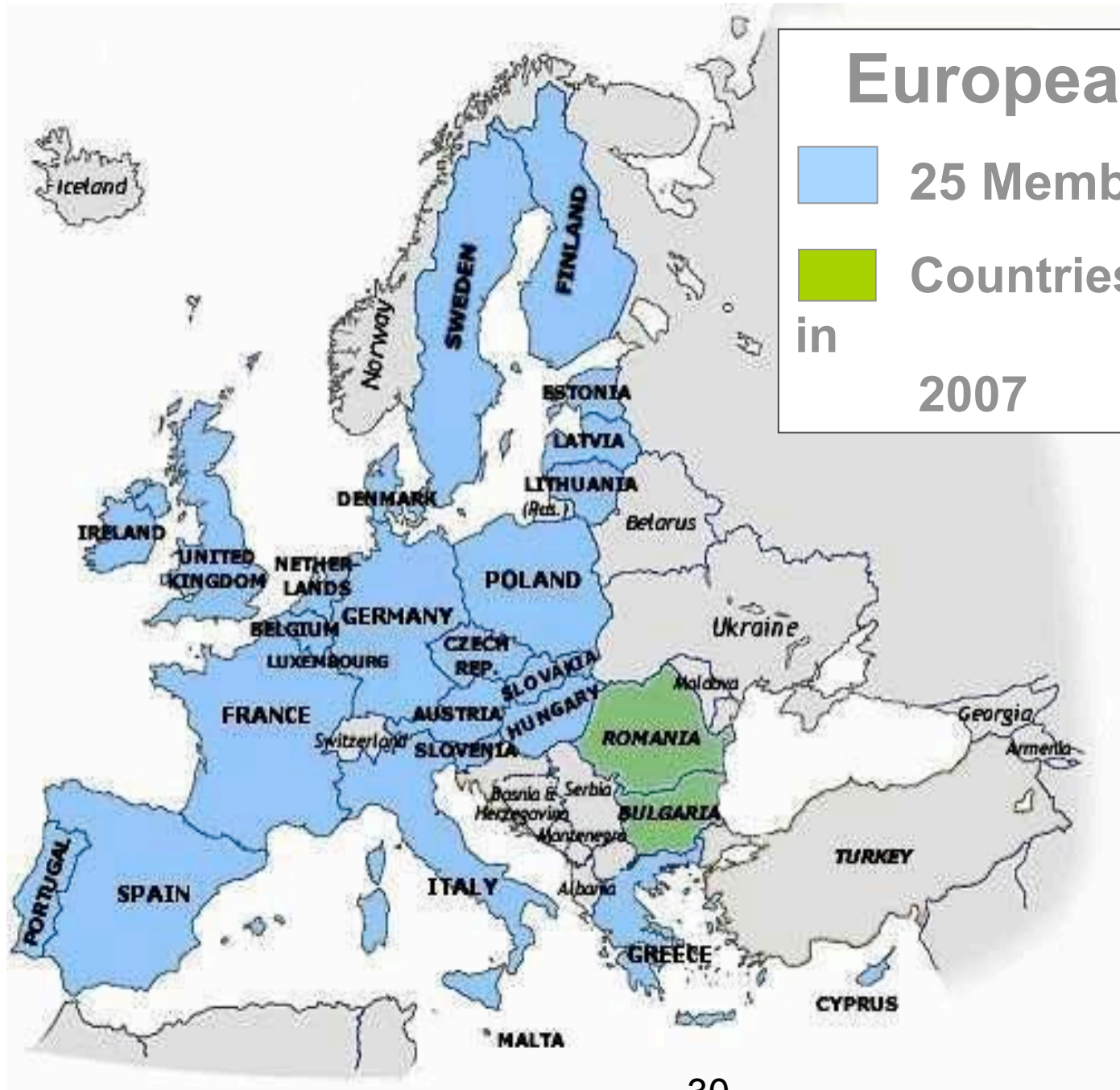
European Union



25 Member States



Countries joined EU
in
2007



Key features of EU ETS

- “Cap and trade” scheme covering energy intensive industries
- Direct emissions approach - liability placed on the entity responsible for emissions and therefore most able to take action
- Currency is European Union Allowances (EUA)
 - One EUA = one metric tonne of CO₂
- Allowances freely tradable throughout EU states

EU ETS Timeline

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EU ETS PHASE 1			EU ETS PHASE 2					EU ETS PHASE 3?				EU ETS PHASE 4?			
			1 st KYOTO COMMITMENT PERIOD					KYOTO PROTOCOL POST-2012 FRAMEWORK?							

January 2005 - EU ETS commences

- Phase 1 EU ETS– 2005-2007 ‘learning phase’
- Phase 2 EU ETS– 2008-2012 ‘Kyoto Commitment Period’
- Phase 3 and beyond....

Sector Coverage

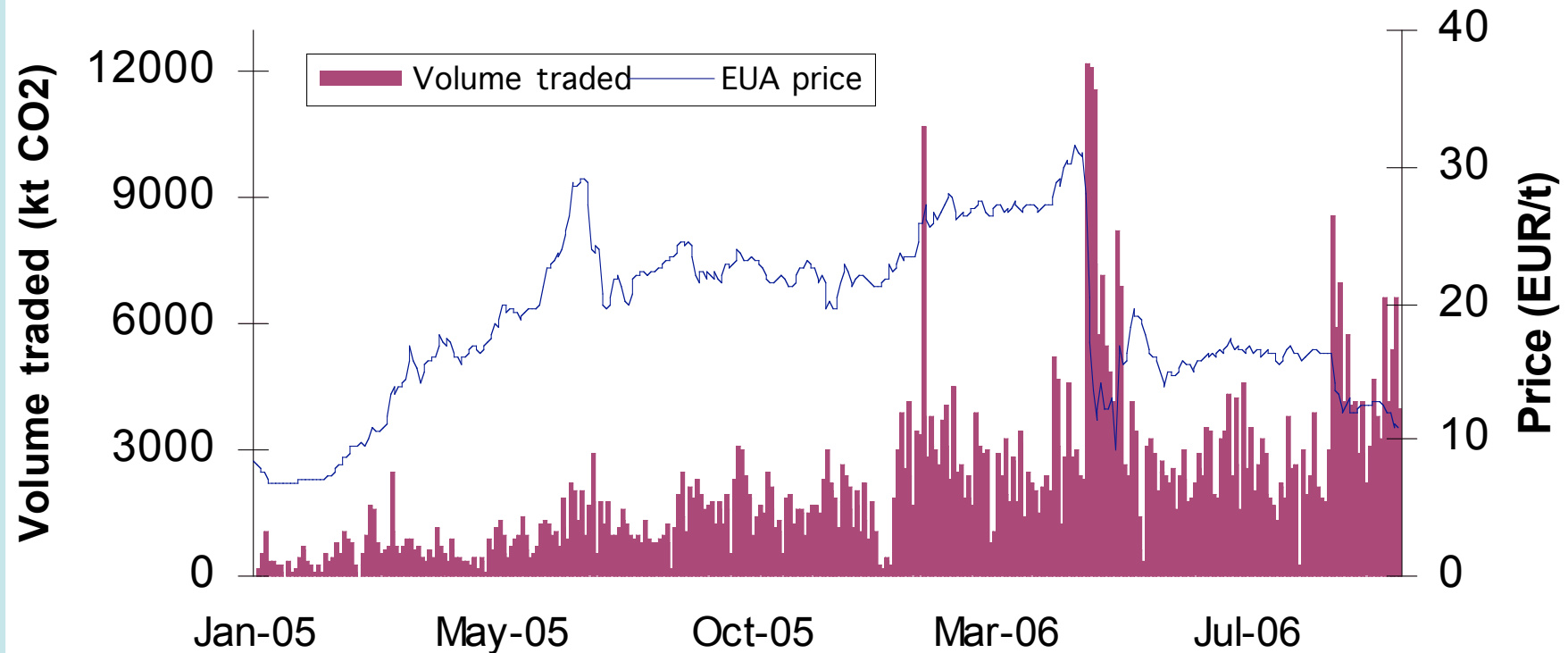
- Covers CO₂ emissions from combustion processes (approximately 50% of EU CO₂ emissions, 30% of EU greenhouse emissions)
- Covers approx 12,000 installations across the EU from these sectors:
 - Electricity generators
 - Other combustion installations (heat & steam production)
 - Mineral oil refineries
 - Iron and steel production and processing
 - Cement & lime
 - Glass & ceramics
 - Pulp & paper sector

Allocation of Allowances

- National Allocation Plan (NAP) sets out the total number of allowances to be issued and distributed to national installations
- Member States may auction up to 5% of allowances for Phase I, up to 10% for Phase II
- Majority of allowances allocated for free
 - Member States used a range of methods for allocation – including historical emissions, projected emissions, sector benchmarks etc

EU ETS Allowance Price

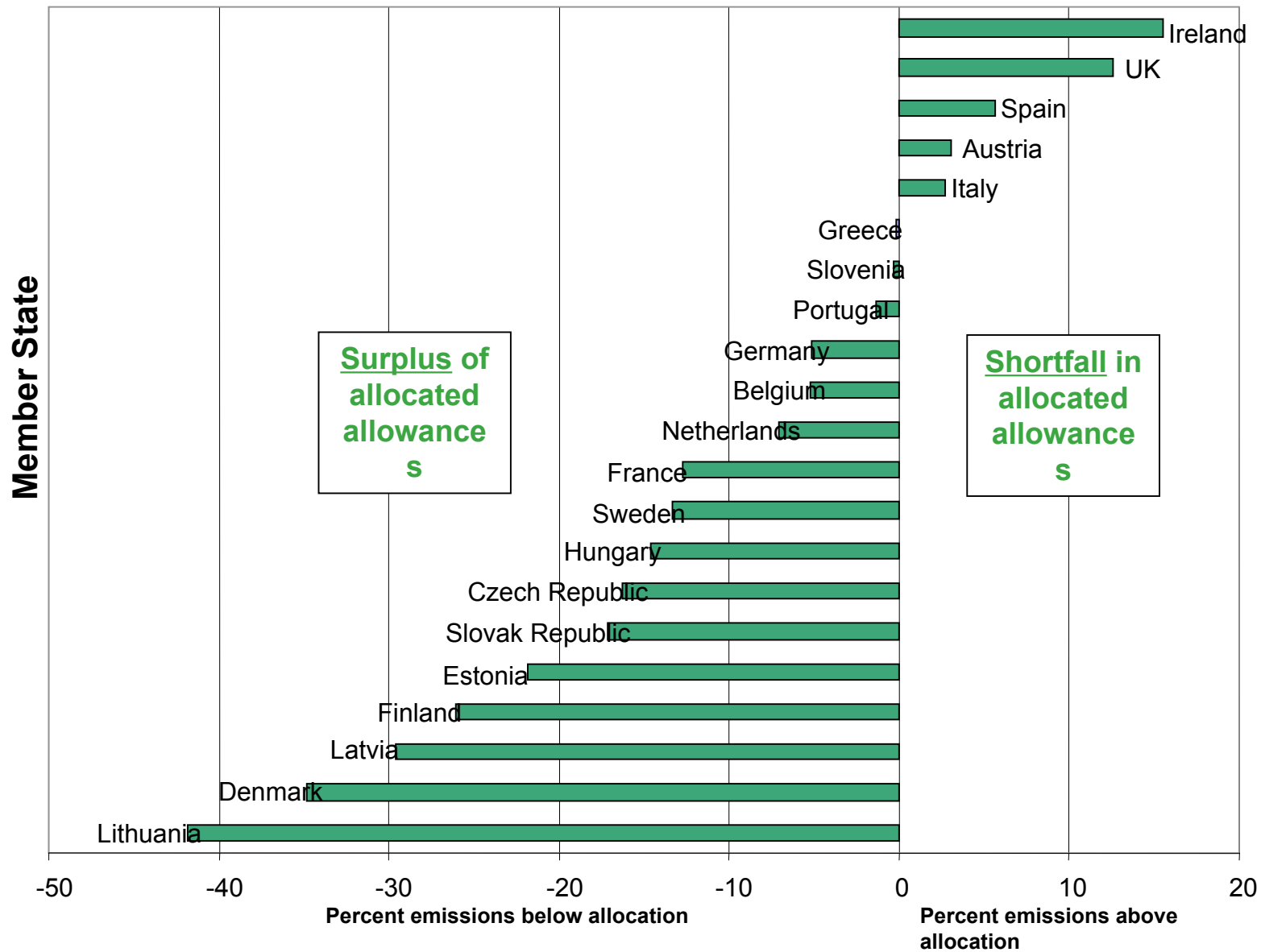
Carbon Market Price Indicator (Jan 05 - Nov 06)



Key short term drivers of carbon price

- Relative fuel prices (natural gas vs coal)
- Weather
 - Drought reduces hydro-electricity production
 - Unusually hot/cold weather increases energy demand
- Policy and regulatory issues
 - Announcement of National Allocation Plans
 - First year compliance results (indicates market long/short)
- Future trades

% difference between Member State allocations and emissions in 2005



Impact of EU ETS to date

- Very high compliance in first 2 years
- Improved emissions data across Europe
- Internalising cost of carbon in price of electricity generation
- Driving investment in Kyoto project credits (CDM)
- Behavioural change – mainstreaming?

“Carbon dioxide has moved out of the domain of the environmental officer at a company to the boardroom and the chief financial officer and the chief executive officer”

Head of Director General Environment, European Commission

Future of the EU ETS

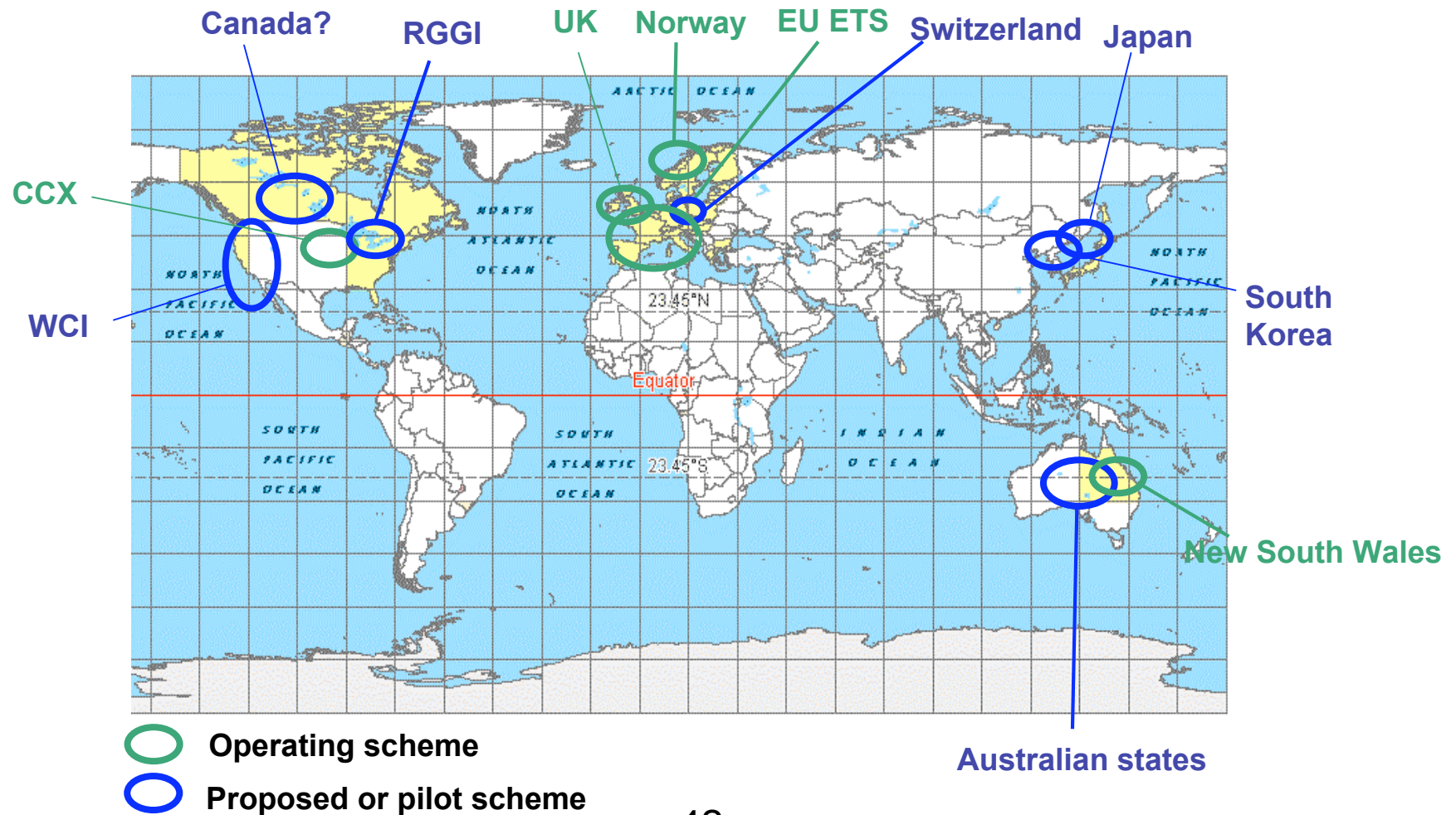
- Phase II begins 1 January 2008
- Expanding the scheme to additional gases or sectors
 - Aviation
- Increasing use of auctioning and benchmarking in allocation of allowances
- Review of ETS Directive this year – centralisation of cap setting – more auctioning, more flexibility on linking....

Summary

- Emissions trading potentially effective in reducing emissions and will form core of UK and EU climate change policy into the future
- Allocation methodologies need to recognise that businesses have better information than public officials on their emissions reduction potential - and emissions reductions often easier to achieve than anticipated by either
- Impacts on market of including non-CO₂ greenhouse gases need to be carefully considered

International emissions trading scheme

Domestic Emissions Trading Schemes being proposed or piloted...



For further information

Email:

- jill.duggan@defra.gsi.gov.uk

Website

- www.defra.gov.uk/environment/climatechange/trading/eu/index.htm

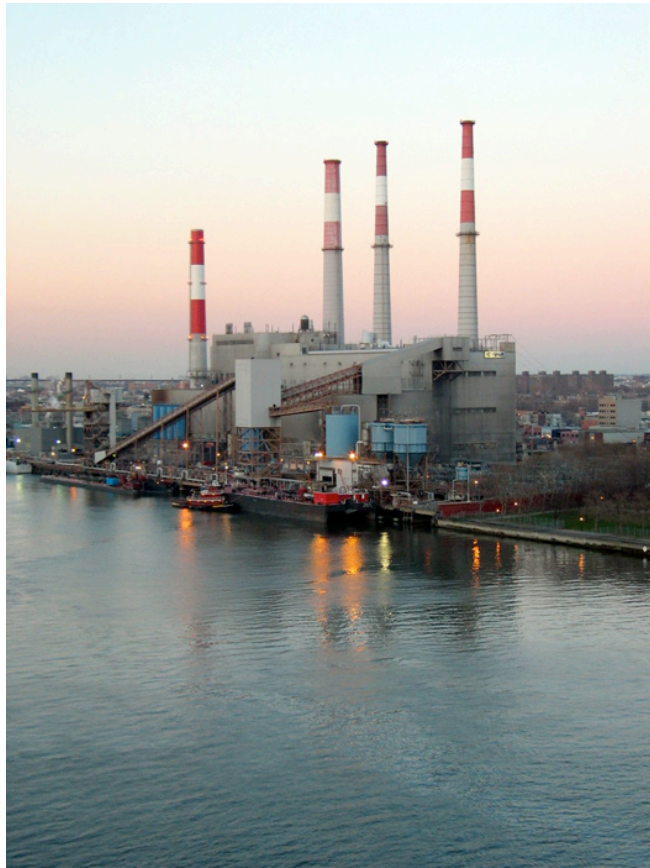


The Northeast Regional Greenhouse Gas Initiative (RGGI): A Cap-and-Trade for Power Plants in the Northeast

Franz T. Litz, Senior Associate
Helping States and the Nation Tackle Climate Change



Regional Greenhouse Gas Initiative



*The First Mandatory
Carbon Cap-and-Trade
Program in the U.S.*

*Launch Date:
Jan. 1, 2009*

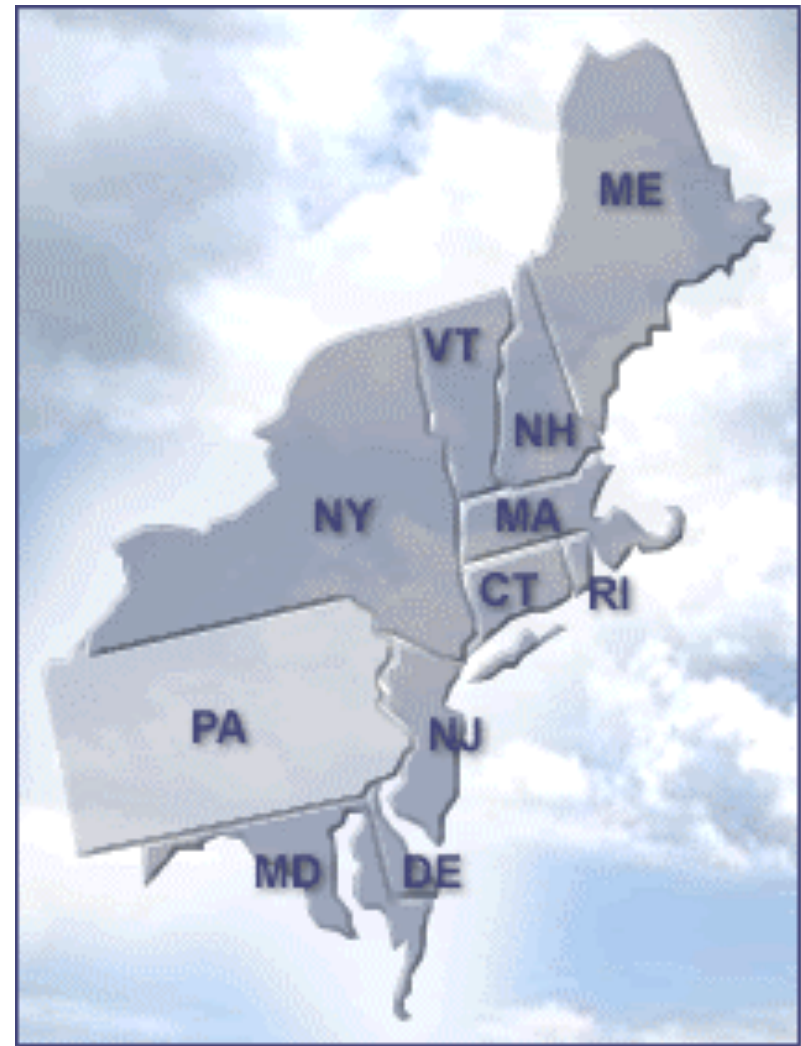




Regional Greenhouse Gas Initiative
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

The Region

- 10 States--bipartisan group of governors
- *48.8 million people—
(16% of US Population)*
- *10% of U.S. Emissions*
- *8th largest emitter in the world*
- *\$2.4 trillion economy
(19% of U.S.)*



The Design Effort

- Fall 2003 Action Plan, with Design Principles
- Groundwork:
 - Learning
 - Data Gathering
 - Stakeholder Input
 - Modeling Analyses
- Making Program Design Decisions
 - Memorandum of Understanding December 2005
 - Model Rule August 2006
- Implementation -- Legislation & Rulemaking Ongoing
- Program Launch January 2009





The diagram is shaped like a house. The roof is a blue triangle containing the title. Below the roof are nine horizontal rectangular blocks, each containing a specific rule or detail of the initiative. The blocks are light blue with black text and are stacked vertically.

BUILDING BLOCKS OF REGIONAL GREENHOUSE GAS INITIATIVE

ENFORCEMENT & PENALTIES (3X ALLOWANCE DEFICIT) FOR NON-COMPLIANCE

SOURCES “TRUE UP” AT END OF EACH 3-YEAR COMPLIANCE PERIOD

MOST STATES TO AUCTION 100% OF ALLOWANCES

EACH STATE ISSUES ONE “ALLOWANCE” FOR EACH TON IN BUDGET

2009 TO 2014 ANNUAL BUDGETS REMAIN SAME; 2.5% REDUCTION PER YEAR THRU 2018

INITIAL ANNUAL EMISSIONS CAP (OR ANNUAL ALLOWANCE BUDGET) = BASELINE

RGGI EMISSIONS BASELINE = “CURRENT EMISSIONS” FROM ALL RGGI SOURCES

RGGI SOURCES MUST MONITOR & REPORT EMISSIONS PER EPA REQUIREMENTS

SOURCES COVERED: POWER PLANTS GREATER THAN 25 MEGAWATTS

RGGI Offsets Decisions

- Offsets Allowed, but Limited Percentage
- Offsets “Valve” Allows more Offsets if per ton Costs are Higher than Projected
- Geography: Anywhere in the United States
- Offsets Standards-based
- 5 Initial Types:
 - Natural Gas, Propane, Heating Oil Efficiency;
 - Land to Forest;
 - Landfill Gas Capture & Combustion;
 - Methane Capture from Animal Operations; &
 - SF₆ Leak Prevention.
- Recognition of CDM Offset Credits

Other RGGI Decisions

- Early Reduction Credits Allowed
- New Source Entry without Barriers:
Allowance Auction levels playing field
- RGGI expandable to other states
- RGGI can link to other trading programs, like WCI, or EU ETS post-2012.

Key RGGI Design Decisions

- Emissions Baselines based on Actual Monitored Emissions Data from Covered Sources
- Emissions Monitoring & Reporting per EPA
- Based on Proven Cap-and-Trade Model from EPA Acid Rain and Northeast Ozone Transport Commission (OTC) NOx Budget Program
- Offsets Kept as Simple as Possible

RGGI Remaining Issues

- Complete Implementation of Rules in States
- Establish Regional Organization to Coordinate Program
- Enter into Cooperative State Agreements on Offsets
- Expand Beyond Electricity Sector?
- Expand Geographically?
- Link with Western Climate Initiative?

For More Information

- RGGI Website: www.rggi.org
- RGGI Listserv: <http://www.rggi.org/listserv.htm>
- Franz Litz, Senior Associate
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Franz T. Litz, Senior Associate
Helping States and the Nation Tackle Climate Change



Regulating Oregon's CO₂ Emissions

Phil Carver
Oregon Dept. of Energy
July 23, 2007

Proposal for Oregon Electric Cap-and-Trade

Governor's Carbon Allocation Task Force (CATF) began in September 2005

- **10 page “median” proposal at:**

<http://www.oregon.gov/ENERGY/GBLWRM/CATF-Rpt-Ltrs.shtml>

- Also cover letter to the Governor
- economic study, and
- comment letters from some CATF members

Legislation

- Legislation introduced as HB 3545. Did not pass.
- Annual emissions cap for electric retail providers over 15,000 tonnes/year
- Cap 2009 - 2011 = Base Period
- Cap 2020 = 10% below 1990 emissions
- Cap 2050 = 75% below 1990 emissions

Flexibility Mechanisms

- 5% to 10% of CO₂ allowances auctioned
- Three-year compliance periods
- Ability to “bank” allowances and carry them forward
- A low-hydro-year compliance respite
- Limited use of unbundled Renewable Energy Certificates (RECS) and offsets
- Special treatment for consumer-owned utilities (COUs) due to very low base-period emissions

COU Flexibility Provisions

AUCTION PROVISIONS:

- Single-price auction with right-of-first-refusal for COUs, retail electric service suppliers (ESSs) and self-generators
- Base period emissions by COUs = about 4 percent of total electric emissions
- OPUC could find high bids by IOUs imprudent

COU Flexibility (cont.)

- 3 percent of allowances set-aside for significant new loads; allowances returned each year if not needed
- Unlimited use of greenhouse gas offsets against emissions from BPA mix

COU Flexibility (cont.)

- Unlimited use of unbundled renewable energy certificates (RECs) against emissions from:
 - Unspecified wholesale purchases in the BPA resource mix
 - Unspecified wholesale purchases by a COU

Alternative Compliance Payment

- Oregon PUC would decide if payment by IOUs was imprudent (i.e. shareholders pay)
- \$40 per metric ton of CO₂, indexed for inflation
- Funds go to CO₂ reduction measures
- ODOE would oversee COU's use funds

Economic Impacts of Proposal

- Compliance will likely increase power ***rates*** but lower power ***bills*** for most electricity users
- Due to significant levels of untapped cost-effective electricity conservation
- Uncertainties on 40-year cost of renewable power vs. natural gas or coal-fired power
- Higher future load growth increases costs

Contact Information

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The California Market Advisory Committee Recommendations

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California Market Advisory Committee

Helping States and the Nation Tackle Climate Change



Cal MAC Background

- Passage of “AB-32”,
The Global Warming Solutions Act of 2006
- Governor Schwarzenegger Directed Creation of MAC
- Cal EPA Secretary Selected 14-Member Committee
- Largely Outside, Independent Experts
- Mission: Provide Recommendations on Design of
Market-based Program to Reduce GHG Emissions
in CA

Lessons Learned from Existing Programs

- Create market scarcity by making sure the program does not distribute more allowances than are demanded.
- Allow for unrestricted banking of allowances
- Apply rigorous criteria for offset credits
- Ensure quality emissions data
- Maintain transparency of emissions data
- Create automatic penalties
- Consider early mandatory reporting
- Consider program adjustments after initial phase, but carefully plan program changes
- Coordinate with other programs to ensure linkages are possible.

Cal MAC Design Principles

- avoid localized effects or disproportionate impacts on low-income communities or communities already adversely affected by air pollution;
- reject approaches that might weaken existing environmental regulations;
- encourage practical, cost-effective emission reductions;
- minimize transaction costs associated with compliance; and
- provide a leadership example for other states and countries.

Cal MAC Recommendations

- Design Principles
- Phased Introduction of Cap-and-Trade Program, as Issues related to Data and Design are Resolved
- Allow Quality Offsets without Limit
- Auction All Allowances Over Time
- Reward Early Action
- No cost caps or other cost-containment mechanisms
- Provide for linkages with other programs, including RGGI and the EU ETS.

Cal MAC Phased Approach

- First: Cover large sources of emissions at the emissions source, and electric generators at “first sellers” to capture emissions from in-state and imported electricity.
- Second: Cover transport emissions “upstream” at the fuel source.
- Third: Cover emissions from commercial and residential buildings “upstream” at the fuel source.
- MAC recognized that not all emitters can be covered with a cap-and-trade program.

For More Information

- Cal MAC Final Report:
 - Press Release: http://www.climatechange.ca.gov/notices/news/2007-06-29_MAC_FINAL_RELEASE.PDF
 - Report: http://www.climatechange.ca.gov/documents/2007-06-29_MAC_FINAL_REPORT.PDF
- Presentation to the CA Air Resources Board, July 27th:
Webcast: <http://www.arb.ca.gov/>

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Questions?

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